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Quantification of anti-fertility compound-Diosgenin concentration in the fenugreek seeds aqueous extract (FSA) (Article)

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Abstract

Introduction: This study aims to build a standardization method for preparation of effective powder from FSA and to quantify diosgenin in FSA. Methodology: One kg of FS were used in this study. Setting: BMS, KOM and KOP, IIUM Kuantan campus. FS were washed with distilled water to exclude any foreign matter, and were then air dried. FS-powder were put in distilled water in a ratio of 1 g of powder in 20 ml of distilled water and were shaken at room temperature for 24 hours. Ten mg of hydrolyzed extract sample was diluted in 10 ml volumetric flask with methanol for 15 minutes. Chromatographic estimation was performed using an equilibrated reverse phase Eclipse XDB-C18 column (particle size 5 µg, 4.6 mm x 150 mm). Results: One gram of FSA extract was hydrolyzed to produce sapogenins and 46.6% was recovered. A calibration curve that was constructed based on five dilutions of diosgenin standard at concentrations of 2, 5, 10, 20, 30 and 50 ppm produced a linear graft ($r = 0.999$). The concentration of diosgenin in FSA extract as calculated using the regression analysis was found to be 29.66 µg/ml, 13.81 % w/w on dried weight basis. Conclusion: Preparation and standardization of effective powder from FSA are the corner stone of many scientific researches in IIUM and Malaysia. Diosgenin is available in the FSA in adequate concentration. The adequate amount of diosgenin in the FSA will guide us to do further study in the way of preparation of a natural product that can be used in the field of reversible anti-fertility therapy.

Author keywords

Anti-fertility; Diosgenin; FSA

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